Table 1 Multiple linear regression analysis: independent predictors of baPWV in CKD ND.

Variables	Not adjusted		Adjusted	
	β coefficient	p	β coefficient	p
Age (years)			0.36	<0.001
DBP (mmHg)			0.31	<0.001
BMI (kg/m^2)			−0.18	<0.001
Serum25(OH)D3 (ng/mL)	−0.36	<0.001	−0.18	<0.001
Adjusted R^2	0.13		0.45	

baPWV = brachial-ankle pulse wave velocity; CKD ND = non-dialysis-dependent CKD; BMI = body mass index; DBP = diastolic blood pressure. In this model, gender, serum creatinine, hemoglobin, albumin, calcium, phosphate, iPTH, eGFR, LDL-C, TC, DM, and HTN were also included as covariates, but they were not independently associated with baPWV.

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0274

Relationship Between Calcium Phosphate Metabolism and Parathyroid Hormone and Chronic Kidney Disease

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Objective: To understand the status of calcium and phosphorus metabolism and parathyroid hormone (iPTH) level in patients with chronic kidney disease (ESRD), and to analyze the significance of calcium and phosphorus metabolism and parathyroid hormone in chronic kidney disease.
Methods: Collected 100 cases of patients with chronic kidney disease, which were divided into 3 groups according to the value of the glomerular filtration rate (GFR): group 1 (30 cases, GFR 89—60 ml/min), group 2 (35 cases, GFR 59—30 ml/min) and group 3 (35 cases, GFR < 30 ml/min), while set up GFR > 90 ml/min as the control group. Calcium, phosphorus and parathyroid hormone (iPTH) were measured.
Results: In the control group, calcium, phosphorus and parathyroid hormone (iPTH) levels showed no obvious abnormalities. In group 1, 23.1% of patients had serum phosphorus increased, only 2 people had slightly parathyroid hormone increased, while serum calcium level had no obvious abnormalities. In group 2, 43.2% of patients had significantly serum phosphate elevated, 5 persons had parathyroid hormone mildly elevated. Serum calcium levels have decreased; 72.1% of patients in group 3 had significantly serum phosphate increased, and 47%of the patients had parathyroid hormone increased. Serum calcium levels gradually decreased together with GFR declined.
Conclusion: When GFR decline to 89—60 ml/min, serum phosphorus increase and parathyroid hyperfunction show up. When the GFR < 60 ml/min, the increase of blood phosphorus and parathyroid hormone are accelerated. When GFR < 30 ml/min the level of serum phosphorus, parathyroid hormone and serum calcium appear unusually severe, which means in phase 2 and 3 ESRD high phosphorus acidemia appears first, and in phase 4 and 5 ESRD serum calcium level abnormal, and nearly 50% of the patients had secondary hyperparathyroidism. Calcium phosphorus metabolism and parathyroid hormone (iPTH) levels were positively correlated with the severity of chronic kidney disease.

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0280

Observational Study of the Efficacy and Safety of Bisoprolol Fumarate in Chronic Kidney Disease Patients with Hypertension Uncontrolled with Metoprolol or Arotinolol

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Objective: To study retrospectively the efficacy and safety of highly selective β1-blocker bisoprolol fumarate in chronic kidney disease patients with hypertension uncontrolled with metoprolol or arotinolol.
Methods: 97 hypertension patients with stage 3—5 chronic kidney disease who visited Renal Department of Internal Medicine of West China Hospital of Sichuan University between January 2013 and September 2014 were included. Every patient was prescribed metoprolol or arotinolol for more than 7 days before inclusion with inadequate blood pressure control. Metoprolol or arotinolol was replaced with similar dosage of bisoprolol fumarate with other combination therapy unchanged. The variation of clinic systolic blood pressure, diastolic blood pressure, mean arterial pressure, heart rate, liver function, kidney function, serum glucose, serum lipids and adverse events were reevaluated at least 14 days later.
Results: Systolic blood pressure decreased 19.77 ± 12.64 mmHg, diastolic blood pressure decreased 14.87 ± 8.42 mmHg, mean arterial pressure decreased 16.41 ± 8.92 mmHgand heart rate decreased 5.86 ± 1.73 beats/min,all treating indications statistically significantly decreased ($P < 0.0001$), at least 14 days after switching to similar dosage of bisoprolol fumarate. No statistically significant difference was observed in renal function, liver function, uric acid, serum glucose and serum lipids before and after switching.
Conclusion: Bisoprolol fumarate associated significantly with reduced blood pressure and heart rate in hypertension patients with stage 3—5 chronic kidney disease who were uncontrolled with similar dosage of metoprolol or arotinolol treated for more than 7 days, and also associated with safety and good tolerance in this population.

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0316

Effect of Renal Anemia on Left Ventricular Hypertrophy in Patients with Non-dialysis Chronic Kidney Disease

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Objective: To investigate the changes of left ventricular structure in non-dialysis chronic kidney disease (CKD) patients with different degrees of anemia.
Methods: To retrospectively analyze clinical data (including gender, age, blood routine, renal function, electrolyte and cardiac color ultrasound) of 152 patients with non-dialysis CKD2—5 diagnosed in our hospital between January and December 2014.
Results: There were no significant differences ($P > 0.05$) in patients' baseline clinical data (including age, gender, primary disease, nutritional status, the incidence rate of hypertension, the use of various antihypertensive drugs). The total prevalence of left ventricular hypertrophy (LVH) was up to 61.28%. Meanwhile, with the decline in renal function, left ventricular end-diastolic diameter and thickness of myocardium (left ventricular posterior wall thickness and interventricular septal thickness) kept increasing ($P < 0.05$). The same happened to the left ventricular mass and mass index ($P < 0.005$) which also increased with the development of anemia. It is worth mentioning that the prevalence of LVH in women is higher than that of men (68.9% vs. 32.4%, $P = 0.000$). Relatively increasing thickness of ventricular wall appeared in 72.03% of the patients. Among them, 45.38% of the patients presented with concentric hypertrophy of cardiac muscle, and 12.61% of the patients presented with eccentric hypertrophy of cardiac muscle.
Conclusion: LVH widely exists in patients with chronic kidney disease, and anemia is an important factor of LVH in CRF patients before dialysis. Then early treatment of anemia can reverse LVH in some patients.

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0342

Perioperative Use of Recombinant Human Erythropoietin for Kidney Transplantation: A Meta-analysis

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Objective: Protective effect of rHuEPO for allograft in kidney transplantation has not been established. Therefore, we conducted a meta-analysis to evaluate the potential influence of rHuEPO on transplanted kidney.
Methods: To identify relevant studies, we searched electronic databases (PubMed, Medline, EMBASE, Ovid, the Cochrane Library, and major nephrology journals) on 28 January 2015. We used a fixed effects model to calculate all summary measures of treatment effects.

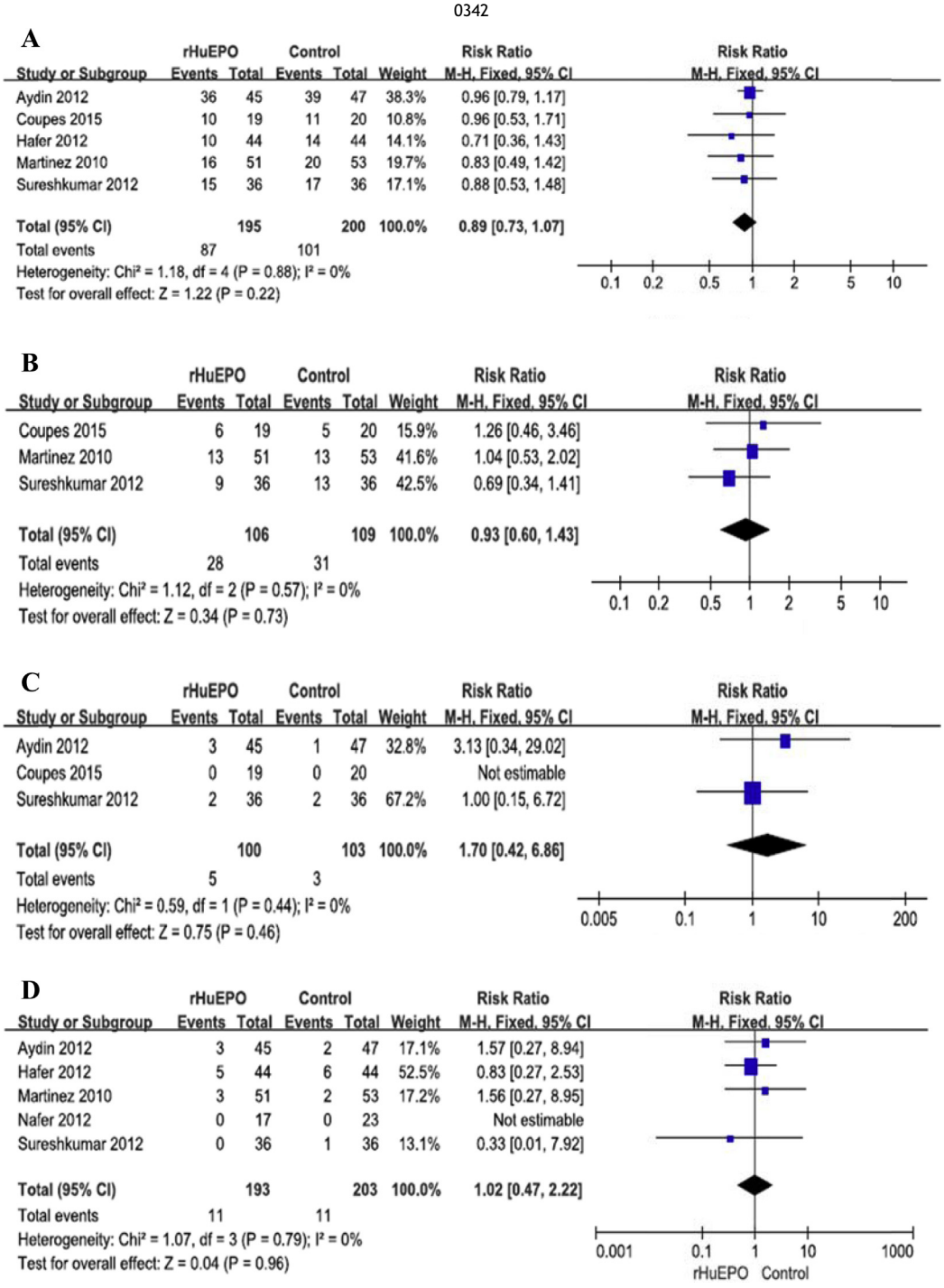

Fig. 2 Forest plot with 95% confidence interval in DGF (A), SGF (B), PNF (C), and graft loss (D) in patients treated with rHuEPO compared with controls.

Results: Six studies with a total of 356 patients met the inclusion criteria. rHuEPO, compared with placebo, had no statistically significant effect on delayed graft function (DGF) [risk ratio (RR) = 0.89; 95% confidence interval (CI), 0.73—1.07; P = 0.22] and slow graft function (SGF) (RR = 0.93; 95% CI, 0.60—1.43; P = 0.73). The rHuEPO and control groups did not differ in thromboembolic events, mortality, acute rejection, and blood transfusion. However, significant difference was demonstrated in long-time eGFR, which indicated that rHuEPO may be favorable to allograft function in the long term.

Conclusion: Available evidence from our meta-analysis suggests that rHuEPO has a certain nephroprotective effect in patients with kidney transplantation without increasing the susceptibility to adverse events.

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